

The listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 51 (Cancelled).

Claim 52 (New). Shut-off instrument (1) for a flow medium, in particular for a slide valve instrument (2) designed for pressurization on both sides with an instrument housing (3) forming a flow channel (6) and a slide valve chamber (11) and with a soft sealing, multipart shut-off element (23) for sealing the flow channel (6), and with a slide stem (16) which penetrates a seal arrangement (14) and/or bearing arrangement (15) in a housing neck extension (12) delimiting the slide valve chamber (11) and which is rotationally connected to a stem nut (19) coupled to the shut-off element (23) by means of threaded engagement, and with a main body (28) provided with sealing elements (34) with at least one external dimension (29) that is slightly smaller than a nominal width (9) of the flow channel (6), wherein on opposite support surfaces (32) of the disc shaped main body (28) ribs (33) projecting over its surfaces are arranged to form a structure for the engaged arrangement of the sealing elements (34) provided with a mutually designed structure, and the sealing elements (34) on the main body (28) are secured by

support discs (40) arranged on opposite end faces (39) of the seal elements (34) by means of securing means (41) traversing the support discs (40), seal elements (34) and the main body (28) in bores (42).

Claim 53 (New). Shut-off instrument according to claim 52, wherein in the housing neck extension (12) sealing surfaces (38) are arranged which mount the sealing and/or bearing arrangement (14, 15) and are concentric to a longitudinal middle axis (24) of the slide valve stem (16), which seal surfaces are designed to widen conically from a base of the housing neck extension (12) in the direction of an end face (70) of the housing neck extension (12).

Claim 54 (New). Shut-off instrument according to claim 52, wherein the instrument housing (3) is designed to be in one piece with the housing neck extension (12).

Claim 55 (New). Shut-off instrument according to claim 52, wherein the instrument housing (3) is designed to comprise multiple parts with the housing neck extension (12).

Claim 56 (New). Shut-off instrument according to claim 52, wherein the instrument housing (3) is designed to be divided

in the region of the slide valve chamber (11) in a plane running perpendicular to the longitudinal middle axis (24) of the slide valve stem (16).

Claim 57 (New). Shut-off instrument according to claim 55, wherein the instrument housing (3) is designed to be divided in a division plane (90) following the longitudinal middle axis (24) of the slide valve stem (16) and a middle axis (25) of the flow channel (6).

Claim 58 (New). Shut-off instrument according to claim 55, wherein the instrument housing (3) is designed to be divided in a division plane (91) following the longitudinal middle axis (24) and running perpendicular to the middle axis (25).

Claim 59 (New). Shut-off instrument according to claim 55, wherein the instrument housing (3) is designed to be divided in a division plane (92) following the middle axis (25) and running perpendicular to the longitudinal middle axis (24).

Claim 60 (New). Shut-off instrument according to claim 52, wherein the housing parts of the instrument housing (3) are detachably connected by a flange arrangement (87) formed in a region of a division plane (90, 91, 92).

Claim 61 (New). Shut-off instrument according to claim 52, wherein in the slide valve chamber (11) guides (56) running parallel to the longitudinal middle axis (24) are arranged for preventing the twisting of the stem nut (19).

Claim 62 (New). Shut-off instrument according to claim 61, wherein the guides (56) are designed by depressions in the slide valve chamber (11) of the instrument housing (3) that are diametrically opposite one another in relation to the longitudinal middle axis and groove-shaped.

Claim 63 (New). Shut-off instrument according to claim 61, wherein the guides (56) are in the form of guide strips in the slide valve chamber (11) of the instrument housing (3) that are diametrically opposite one another in relation to the longitudinal middle axis (24).

Claim 64 (New). Shut-off instrument according to claim 52, wherein the stem nut (19) is mounted so as to be secure against twisting by means of guide extensions in the groove or strip-like guides (56) that are diametrically opposite one another in relation to the longitudinal middle axis (24).

Claim 65 (New). Shut-off instrument according to claim 52, wherein the stem nut (19) is provided with coupling means (31) which lie diametrically opposite to the longitudinal middle axis (24) and engage in coupling grooves (30) of the main body (28).

Claim 66 (New). Shut-off instrument according to claim 52, wherein at an end position of the stem nut (19) corresponding to the shut position the coupling means (31) project over the slide valve chamber (11) in the direction of the flow channel (6).

Claim 67 (New). Shut-off instrument according to claim 52, wherein the main body (28) is in the shape of a disc and in the direction of an external dimension (29) is penetrated by a mounting bore (45) receiving the slide valve stem (16).

Claim 68 (New). Shut-off instrument according to claim 52, wherein the main body (28) is in the form of a hollow body (121) or wall discs (117, 118) connected by wall sections (119) and spacer sleeves (120).

Claim 69 (New). Shut-off instrument according to claim 52, wherein the main body is provided with at least one flattened

section (123) which lies in a plane running perpendicular to the longitudinal middle axis (24).

Claim 70 (New). Shut off instrument according to claim 52, wherein in the region of the flattened section (123) in the main body (28) a compensating element (127) is arranged which is secured preferably via a plug and socket connection (126).

Claim 71 (New). Shut off instrument according to claim 52, wherein the main body (28) is secured against twisting in a guide arrangement (51) extending linearly to an adjustment direction in the instrument housing (3).

Claim 72 (New). Shut-off instrument according to claim 52, wherein the guide arrangement (51) is formed by guide elements (50, 97) laterally projecting over an external outline of the main body (28) and guide webs (49) in the instrument housing (3) which run parallel to the longitudinal middle axis (24) and are diametrically opposite one another.

Claim 73 (New). Shut-off instrument according to claim 52, wherein the guide webs (49) are arranged in the region of housing shapings (37) outside a flow cross section (8) of the flow channel (9).

Claim 74 (New). Shut-off instrument according to claim 71, wherein the guide arrangement (51) is formed in the instrument housing (3) for the guide elements (50, 97) projecting laterally over the main body (28) by guide webs (49) or guide grooves (96) running parallel to the longitudinal middle axis (24) and diametrically opposite one another.

Claim 75 (New). Shut-off instrument according to claim 52, wherein the guide elements (50, 97) cooperating with the guide webs (49) or guide grooves (96) are secured in the main body (28).

Claim 76 (New). Shut-off instrument according to claim 52, wherein the guide elements (50, 97) are connected in one piece with the main body (28).

Claim 77 (New). Shut-off instrument according to claim 52, wherein the seal elements (34) are connected with the support discs (40) and the guide elements (50) preferably by securing means (41), e.g. a spacer screw, arranged in a main body middle plane running perpendicular to the longitudinal middle axis (24).

Claim 78 (New). Shut-off instrument according to claim 52, wherein the seal elements (34) are penetrated by the securing

means (41) in bores (42), whereby the bores (42) are designed to be pressure-tight with the securing means (41).

Claim 79 (New). Shut-off instrument according to claim 52, wherein a sealing collar (107) surrounding the bore (42) is arranged on the sealing element (34).

Claim 80 (New). Shut-off instrument according to claim 52, wherein in order to mount the sealing collar (107) in the main body (28) a mount (108) encompassing the bore (42) is arranged for the sealing collar (107).

Claim 81 (New). Shut-off instrument according to claim 52, wherein the sealing arrangement (14) for the slide valve stem (16) in the housing neck extension (12) comprises a seal carrier (61) comprising an inner and outer seal, e.g. O-rings (64, 65), and surrounding a stem projection (17).

Claim 82 (New). Shut-off instrument according to claim 52, wherein the inner and outer seal is preferably in the form of a pairwise arrangement of O-rings (64, 65).

Claim 83 (New). Shut-off instrument according to claim 52, wherein the seal carrier (61) is positioned in the housing neck extension (12) by means of a bayonet-locking device.

Claim 84 (New). Shut-off instrument according to claim 52, wherein an extension of the seal carrier (61) mounting the external seal projection forms a conical seal projection.

Claim 85 (New). Shut-off instrument according to claim 52, wherein the bayonet locking device of the seal carrier (61) in the housing neck extension (12) is formed by locking elements (77) projecting diametrically over an external diameter of the seal carrier (61) and mounting grooves (78) allocated to the locking elements (77) in a mounting bore (67) of the housing neck extension (12).

Claim 86 (New). Shut-off instrument according to claim 52, wherein the seal carrier (61) in the housing neck extension (12) is prevented from twisting by at least one flanged nose (116).

Claim 87 (New). Shut-off instrument according to claim 52, wherein in the housing neck extension (12) a bearing arrangement (15) is provided for the rotatable bearing of the slide valve stem (16).

Claim 88 (New). Shut-off instrument according to claim 52, wherein the slide valve stem (16) preferably has a bearing flange (57) in the region of the bearing arrangement (15).

Claim 89 (New). Shut-off instrument according to claim 52, wherein the bearing flange (57) is formed by a annular collar with a triangular cross section projecting over a stem diameter (109).

Claim 90 (New). Shut-off instrument according to claim 52, wherein in the mounting bore (67) of the housing neck extension (12) for the stem bushing (13) a bearing sleeve (59) is arranged, provided with a bearing flange (58) for mounting the bearing flange (57).

Claim 91 (New). Shut-off instrument according to claim 52, wherein a face seal ring (60) is arranged between the bearing collar (57) and the seal carrier (61).

Claim 92 (New). Shut-off instrument according to claim 52, wherein bearing means of the bearing arrangement (15) for the slide valve stem (16) are formed by a bearing layer applied to bearing points in the housing neck extension (12)

Claim 93 (New). Shut-off instrument according to claim 52, wherein at the end section of the housing neck extension (12) enclosing the stem projection (17) a neck ring (73) is arranged which is secured in the housing neck extension (12) and penetrated by the stem projection (17).

Claim 94 (New). Shut-off instrument according to claim 52, wherein the main body (28) of the shut-off element (23) is made of metal, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 95 (New). Shut-off instrument according to claim 52, wherein the seal element (34) is made of elastomers, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 96 (New). Shut-off instrument according to claim 52, wherein the support ring (40) is made of metal, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 97 (New). Shut-off instrument according to claim 52, wherein the stem nut (19) is made of metal, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 98 (New). Shut-off instrument according to claim 52, wherein the slide valve stem (16) is made of metal, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 99 (New). Shut-off instrument according to claim 52, wherein the seal carrier (61) is made of metal, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 100 (New). Shut-off instrument according to claim 52, wherein the instrument housing (3) is made of metal, plastic or high-temperature resistant materials and/or materials that are resistant to aggressive media.

Claim 101 (New). Shut-off instrument according to claim 52, wherein the locking position of the shut-off element (23), in which the seal elements (34) lie against the sealing surfaces (38) of the instrument housing (3), is formed by a stop arrangement (81) between the slide valve stem (16) and the main body (28) of the shut-off element (23), in particular by a detent ring (83) secured to the end section of the slide valve stem (16), which delimits the movement of the threaded stem (16).

Claim 102 (New). Shut-off instrument according to claim 52, wherein the edge collar (35) of the sealing element (34) is designed to have sealing lips (100, 101).

Claim 103 (New). Shut-off element (23) for a shut-off instrument (1) for a flow medium with a disc-shaped main body (28) provided on opposite support surfaces (32) with soft seal

sealing elements (34), and with a mounting bore (45) penetrating the main body for a slide valve stem (16), wherein on the support surfaces (32) ribs (33) projecting over their surfaces are arranged for forming a structure, for the engaged arrangement of the seal elements (34) provided with a compatible structure, and the seal elements (34) on the main body (28) are secured by support discs (40) arranged on opposite end faces (39) of the seal elements (34) by means of securing means (41) penetrating the support discs (40), seal elements (34) and the main body (28) in bores (42).

Claim 104 (New). Shut-off element (23) according to claim 103, wherein the main body (28) is designed as a hollow body (121) or wall discs (117, 118) connected by wall sections (119) and spacer sleeves (120).

Claim 105 (New). Shut-off element according to claim 103, wherein the main body is provided with at least one flattened section (123) which is formed in a plane running perpendicular to the longitudinal middle axis (24).

Claim 106 (New). Shut-off element according to claim 103, wherein in the region of the flattened section (123) in the main body (28) a compensating element (127) is arranged secured preferably by a plug-and-socket connection (126).

Claim 107 (New). Shut-off element according to claim 103, wherein the main body (28) is provided with coupling grooves (30) for mounting coupling means (31) of a stem nut (19).

Claim 108 (New). Shut-off element according to claim 103, wherein the main body (28) is provided with a guide elements (50, 97) projecting over an external outline.

Claim 109 (New). Shut-off element according to claim 103, wherein the guide elements (50, 97) are secured in the main body (28).

Claim 110 (New). Shut-off element according to claim 103, wherein the guide elements (50, 97) are connected in one piece with the main body (28).

Claim 111 (New). Shut-off element according to claim 103, wherein the sealing elements (34) are connected to the support discs (40) and the guide elements (50) preferably by securing means (41), e.g. a spacing screw, arranged in a main body middle plane running perpendicular to the longitudinal middle axis (24).

Claim 112 (New). Shut-off element according to claim 103, wherein the sealing elements (34) are penetrated by the securing means (41) in bores (42), whereby the bores (42) are designed to be pressure-tight with the securing means (41).

Claim 113 (New). Shut-off element according to claim 103, wherein a sealing collar (107) is arranged surrounding the bore (42) on the sealing element (34).

Claim 114 (New). Shut-off element according to claims 103, wherein to mount the sealing collar (107) in the main body (28) a mount (108) is arranged for the sealing collar (107) surrounding the bore (42).